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Convex optimization problems with arbitrary right-hand side perturbations

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Abstract

The problem of finding a solution to a system of mixed variational inequalities, which can be interpreted as a generalization of a primal-dual formulation of an optimization problem under arbitrary right-hand side perturbations, is considered. A number of various equilibrium type problems are particular cases of this problem. We suggest the problem to be reduced to a class of variational inequalities and propose a general descent type method to find its solution. If the primal cost function does not possess strengthened convexity properties, this descent method can be combined with a partial regularization method. © 2005 Taylor & Francis Group Ltd.

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Keywords

Arbitrary perturbations, Dual descent method, Equilibrium problems, Optimization problems